

WE CLAIM:

1. An enhanced method of providing telephone directory assistance service at a directory assistance center, comprising the steps:

5 (a) receiving a customer call from a calling customer;

(b) connecting the calling customer to a directory assistance operator;

10 (c) locating a destination telephone number of a desired party wanted by the calling customer in a computer database;

(d) initiating a telephone call between the calling customer and the destination telephone number responsive to operator selection of the destination telephone number and one of a plurality of connection options, at least one of the connection options including the following steps:

15 (e) monitoring said telephone call for a predetermined call status signal of a predetermined call status duration and,

20 (f) after said predetermined call status duration of predetermined call status signal has been detected, playing a recorded menu of options for the calling customer, the recorded menu allowing the calling customer to select from a plurality of options with a predetermined caller input signal;

(g) monitoring said telephone call for said predetermined caller input signal issued by the calling customer responsive to said recorded menu; and

30 (h) taking action based on said predetermined caller input signal issued by the calling customer.

2. The method of claim 1, where the predetermined signal is a ringing signal, the method further comprising:

35 detecting the existence of said ringing signal; muting the ringing signal for the calling customer while continuing to ring the destination telephone number; and

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repeating steps (f) - (h).

3. The method of claim 2 which includes  
returning audible ringing to the calling customer and  
5 repeating steps (e) - (h).

4. The method of claim 1, where the  
predetermined signal is a busy signal, the method  
further comprising:  
10 detecting the existence of said busy signal; and  
dropping said telephone call to said destination  
telephone number.

5. The method of claim 1 where the plurality  
15 of options comprises: leaving a recorded voice message  
for a desired party, leaving a pre-determined  
alphanumeric message for the desired party, leaving a  
dictated message for the desired party, playing an audio  
"voicing" of the number of the desired party, calling  
20 the desired party back every N-minutes, where N-minutes  
is chosen by the calling customer, leaving a recorded  
voice page for the desired party, leaving a pre-  
determined alphanumeric page for the desired party,  
hanging up, or being returned to a directory assistance  
25 operator.

6. The method of claim 1 further comprising:  
determining whether the calling customer wishes  
30 to record a voice message for a non-answering party  
which will be delivered at a later time, and if so,  
terminating said telephone call to the  
destination telephone number, and  
allowing the calling customer to record the  
35 voice message to be delivered to the non-answering party  
at a later time.

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7. The method of claim 6 which further includes allowing the calling customer to determine how many attempts will be made to deliver the recorded voice message.

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8. The method of claim 6 which further includes calling the calling customer back at a later time to confirm successful or failed recorded voice message delivery.

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9. The method of claim 6 where the recorded voice message is a recorded voice page.

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10. The method of claim 1 further comprising:  
determining whether the calling customer wishes to leave an alphanumeric message for a non-answering party which will be delivered at a later time, and if so,

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terminating said telephone call to the destination telephone number, and  
allowing the calling party to leave an alphanumeric message to be delivered to the non-answering party at a later time.

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11. The method of claim 10 in which the alphanumeric message is created by the directory assistance center from voice dictation by the calling customer.

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12. The method of claim 10 in which the alphanumeric message is selected from a predetermined set of alphanumeric messages.

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13. The method of claim 10 in which the alphanumeric message is an alphanumeric page.

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14. The method of claim 10 which further includes calling the calling party back at a later time to confirm successful or failed alphanumeric message delivery.

15. The method of claim 10 which further includes allowing the calling customer to determine how many attempts will be made to deliver the alphanumeric message.

16. The method of claim 1 further comprising: determining whether said predetermined caller input signal is a return-to-operator signal, and if so, having a PBX reassign an operator to the calling customer, playing a return greeting for the calling customer, and re-connecting the calling customer to a directory assistance operator.

17. The method of claim 16 wherein the return-to-operator signal is a DTMF tone for the star key on a telephonic keypad.

18. The method of claim 1 in which the predetermined caller input signal is a voice response from the calling customer.

19. The method of claim 1 in which the predetermined caller input signal is a DTMF tone response.

20. The method of claim 1 which includes continuously monitoring said telephone call using a dedicated monitoring device.

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21. A method of providing telephone directory assistance service at a directory assistance center, the directory assistance center in communications with a calling customer, and a telephonic service provider providing telephonic services to the calling customer, the steps comprising:

providing a plurality of directory assistance services to the calling customer, the directory assistance services including providing a number of a desired party, leaving a message for the desired party, paging the desired party, and connecting the calling customer to the desired party; and

providing billing information to the telephonic service provider providing telephonic services to the calling customer for all directory assistance services provided by the directory assistance center to the calling customer.

22. The method of claim 21 which includes leaving a recorded voice message for the desired party.

23. The method of claim 21 which includes leaving a dictated alphanumeric message for the desired party, where the alphanumeric message is dictated to a directory assistance operator at the directory assistance center.

24. The method of claim 21 which includes billing the service provider of the calling customer for message delivery, services, page delivery services, connection time to the directory assistance service, and connection time to the desired party.

25. A method of providing telephone directory assistance service at a directory assistance center, the telephone directory assistance service including delivering a message to a called party comprising the steps:

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detecting a duration of voice response energy at  
5 the destination telephone number;

10 taking a different delivery action according to  
the type of answer.

15            playing a predetermined menu containing a plurality of options selectable by a party at the destination telephone number for accepting delivery of said message.

25                    28. The method of claim 25 wherein the types of  
answer comprise an answer by a residential party, the  
method comprising:

29. The method of claim 25 wherein the types of  
answer comprise an answer by a business party, the  
35 method comprising:

where the type of answer is the answer by a business party, playing a menu with a set of options including at least transferring to an extension of the called party, and playing said message.

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30. The method of claim 25 wherein the types of answer comprise an answer by automated answering equipment, the method comprising:

where the type of answer is the answer by an automated answering equipment, playing said message on said telephonic connection.

31. A method of directory assistance that includes providing a plurality of services to a calling customer, the services including connecting a calling customer to a directory assistance operator, the steps comprising:

providing a first queue to sequence calling customers to available operator;

providing a second queue, different from the first queue, to sequence calling customers who have been returned to an operator by a directory assistance service using a predetermined DTMF tone;

servicing the second queue until the second queue reaches a predetermined level; and

servicing the first queue until the first queue until the first queue is empty.

32. The method of claim 31 in which the predetermined level for servicing the first queue is an empty level in the second queue.

33. A method of directory assistance that includes providing a plurality of services to a calling customer, the steps comprising:

providing a directory assistance service to a calling party that provides the numbers of telephonic devices which are not telephonic devices connected to a dedicated land telephone line;

locating a number of a desired telephonic device that is not connected to a dedicated land telephone line using said distinct directory assistance service; and

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connecting said calling party to said desired telephonic device using said number.

34. The method of claim 33 in which the  
5 telephonic device not connected to a dedicated telephone line include mobile phones, pagers, and personal communication services devices.

35. A method of directory assistance that  
10 includes connecting a calling customer to a desired number wherein the calling customer is being provided telephonic services by a telephonic service provider and the desired number is assigned to a telephonic device not connected to a dedicated land telephone line, the  
15 steps comprising:

asking if said calling customer will accept all charges for connection to said desired number, and if so

connecting the calling customer to the desired number which is assigned to a telephonic device not  
20 connected to a dedicated telephone line, and

providing billing information to the telephonic service provider providing telephonic service to the calling customer for all charges for said connection.

36. The method of claim 35 in which the  
25 telephonic device not connected to a dedicated telephone line includes mobile phones, pagers, and personal communication services devices.

37. A method of directory assistance providing  
30 directory assistance service at a directory assistance center, where the directory assistance center is in communications with a calling customer, and the calling customer is identified at the directory assistance  
35 center by a calling customer telephone number, the method comprising:

locating a destination telephone number for the calling customer;

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initiating a telephonic connection between the  
calling customer and the destination telephone number;  
monitoring the telephonic connection for a  
termination signal from the calling customer; and  
5 upon detection of the termination signal,  
sending an alphanumeric page from the directory  
assistance center to the calling customer telephone  
number, said page including the destination telephone  
number and name of a party associated with the  
10 destination telephone number.

38. The method of claim 37 where the  
alphanumeric page is sent with a predetermined paging  
protocol.

39. The method of claim 38 where the  
predetermined paging protocol is Telocator Alphanumeric  
Paging Protocol (TAP).

40. The method of claim 38 where the  
predetermined paging protocol is Telocator Data Protocol  
(TDP).

41. A method of directory assistance where a  
25 calling customer has been connected to a called party  
over a connection initiated by a directory assistance  
center, the calling customer connected to the called  
party with a telephonic device capable of receiving and  
storing pages, the method comprising:

30 upon termination of the connection by the  
calling customer,

receiving an alphanumeric page from the  
directory assistance center, said alphanumeric page  
including the destination telephone number and name of a  
35 party associated with the destination telephone number;  
and

storing said alphanumeric page in the calling  
customer telephonic device.

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determining whether caller desires to speak with the called party, and if so

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connecting the caller on the second telephonic connection to the called party on the first telephonic connection to complete the call between the caller and the called party.

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Rule 1.124 49  
48. The method of claim 47, the method further comprising, allowing the caller to determine the predetermined interval at which the directory assistance center will attempt to contact the called party who is  
10 unavailable.

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Rule 1.124 49. The method of claim 47, where the caller can select the failed number of attempts and the predetermined interval in which the directory assistance  
15 center will try to reconnect to the called party who is unavailable, the method further comprising,

attempting to contact the called party who is unavailable at the predetermined interval;  
determining whether the called party is  
20 unavailable, and if so recording a failed attempt; and  
upon exceeding the number of failed attempts selected by the caller,

terminating the attempts to contact the called party who is unavailable at the predetermined interval,  
25 and

informing the caller that the directory assistance center did not successfully contact the called party before exceeding the selected number of failed attempts.

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Rule 1.124 51  
50. A method of providing personalized telephone directory assistance service at a directory assistance center, comprising:  
maintaining a database of telephone numbers in  
35 association with attribute values, the attribute values relating to attributes of telephone subscribers having the telephone numbers;

receiving a customer call from a calling customer;

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identifying an originating telephone number of  
the customer call;

retrieving an attribute value associated with  
the originating telephone number from the database; and

5 allocating the customer call to a directory  
assistance operator based on the attribute value  
associated with the originating telephone number.

Rule 1.126 52 53  
10 51. The method of claim 50 wherein the  
attribute value identifies a language spoken by the  
telephone subscriber, the method further comprising:  
assigning the customer call to a directory  
assistance operator who is a speaker of the language.

Rule 1.126 53  
15 52. The method of claim 50 wherein the  
attribute value identifies the telephone subscriber as a  
preferred customer, the method further comprising:  
prioritizing the customer call in relation to  
other calls to the directory assistance center.

Rule 1.20 54  
20 53. A method of providing personalized  
telephone directory assistance service at a directory  
assistance center, comprising:

25 maintaining a database of telephone numbers in  
association with attribute values, the attribute values  
relating to attributes of telephone subscribers having  
the telephone numbers;

receiving a customer call from a calling  
customer;

30 identifying an originating telephone number of  
the customer call;

retrieving an attribute value associated with  
the originating telephone number from the database; and

35 playing personalized automated audio according  
to the attribute value, the personalized automated audio  
being specific to the telephone subscriber whereby  
different personalized automated audio is played to at  
least some of the calls received at the directory  
assistance center.

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54. The method of claim 53 wherein the personalized automated audio comprises greetings, and closings.

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5 55. The method of claim 53 wherein the personalized automated audio comprises a menu having a set of options based on the attribute value, whereby a different menu is played to at least some of the calls received at the directory assistance center.

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56. The method of claim 55 wherein the menu comprises a set of options for actions in response to a failure to connect with a desired party, the method further comprising:

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locating a destination telephone number of the desired party wanted by the calling customer in a computer database;

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initiating an attempt to telephonically connect the calling customer to the destination telephone number;

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monitoring the attempt to detect a predetermined status signal indicative of failure to telephonically connect the calling customer to the destination telephone number;

if the predetermined status signal is detected, playing the menu to the calling customer;

monitoring the customer call for input from the calling customer responsive to the menu and indicative of one of the options; and

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taking the action for the option indicated by the input.

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